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ORIGINAL.

THE FEEDING OF AN INCUBATOR BABY.

BY CHARLES W. TOWNSEND, M. D.

S., a female, weight at birth two pounds and twelve ounces, and was 17 inches long. Considerable interest attaches to this light weight, owing to the fact that the infant was only two weeks premature, and probably the explanation lies in the fact that the placenta was found to contain numerous large and small areas of necrosis.

Dr. J. W. Williams, in his article in the *Festschrift* to Prof. Welch, says: "Marked infarct formation (in the placenta) is not infrequently observed and often results in the death or imperfect development of the fetus. It is usually associated with albuminuria on the part of the mother." This association existed in the present case.

The infant was wrapped in a wadded cotton and cheese cloth jacket and placed in an incubator, where the temperature was constantly maintained at 85 degrees F., and where good ventilation was secured. The incubator resembling that of Tariner, consisted of a

box with a glass lid through which the infant could be seen lying on a shelf. Below the infant a tank refilled at regular intervals with hot water maintained the requisite temperature of 85 degrees F. with a variation of only two or three degrees as shown by a thermometer within the lid. Holes at the side near the bottom for the entrance and an anemometer at the other end on top for the exit of air served for ventilation. The constant revolutions of the wheel of the anemometer showed that the ventilation was satisfactory. Here she remained constantly for six weeks, and was finally weaned entirely from this abode at six and a half weeks in warm weather.

The gain of weight from the first was satisfactory. From a birth weight of two pounds twelve ounces, the infant doubled its weight in twelve weeks, tripled it in four and a half months, weighing then eleven pounds and three ounces. At a year she weighs seventeen pounds, or more than six times her birth weight.

During the first six months the infant averaged a gain of five ounces a week, the least gain being one ounce for one week only, the greatest gain eleven ounces. The length at birth was seventeen inches, at six months, twenty-three inches, or an average gain of an inch a month.

The infant was fed at first from a Breck premature feeder, which is simply a large dropper holding an ounce, with a small nipple at the end.

The food from the first was cow's milk modified at home by a method I have used for some years, and have found most simple and satisfactory in practice even in difficult cases. The results in this infant were certainly good, and although I have no intention of using this one case as an argument for this method of feeding, it will serve as an illustration, and at least shows that it is possible to successfully feed a very small infant on a simple home mixture.

There is nothing new about the method of feeding except that it provides a way for easily calculating the approximate percentages of fat, sugar and albuminoids in the mixture, and although these calculations are only approximate, they are, I believe, sufficiently accurate for practical purposes. This knowledge of the percentages of the food is a great help in the feeding problem.

The rule I have worked out is this: Each ounce of ten per cent. cream in a 20-ounce mixture represents .50 per cent. of fat, .20 per cent. of sugar and .20 per cent. of albuminoids; and each even table spoonful of sugar of milk added to this mixture raises the percentage of sugar.—[See C. W. Townsend, *Boston Medical and Surgical Journal*, March 23, 1899, and October 11, 1900.]

Cream containing 10 per cent. of fat is obtained, not by the centrifugal process, but by pouring off the upper quarter from a bottle or can of milk after it has stood five hours. This, of course, is approximate, but I have found that the amount of variation in the cream obtained in this way is not very great, much less than the variations in commercial creams. Centrifugal creams are, in my opinion, undesirable.

The advantage of raw over sterilized

or even pasteurized milk is in many cases so great that I prefer the uncooked milk, if it is a possible thing. With perfectly fresh and clean milk in the present case it was always used raw.

A very weak mixture was given the infant at the first as follows: Top milk, 1 ounce; water, 18 ounces; lime water, 1 ounce; sugar of milk, 2 table spoonful or approximately, fat, .50; sugar, 4.20; albuminoids, .20. A drachm was given every hour during the day, two drachms every two hours during the night.

In difficult cases where the power to digest the caseinogen is slight, I often increase the amount of albuminoids in these weak mixtures by the addition of the whites of one or two eggs in the twenty ounces. The white of egg resembles lact-albumin closely and is so much easier to obtain than whey, it seems to me it is better and safer in milk modifications.

The strength of this mixture was gradually increased by adding one ounce more of top milk, and one ounce less of water until on the seventh day it was as follows: Top milk, 5 ounces; water, 14 ounces; lime water, 1 ounce; sugar of milk, 2 tablespoonfuls, or fat, 2.50; sugar, 5; albuminoids, 1. In some cases it is necessary to increase the strength more slowly by half ounces or even quarter ounces daily, an increase of only .25 per cent., or .13 per cent. of fat, and .10 per cent. or .5 per cent. of albuminous respectively.

The infant was now taking three to four drachms every hour and a half in the day and every two hours at night. At two weeks the strength had reached: fat, 3; sugar, 5.20; albuminoids, 1.20, and the infant was taking five drachms every hour and a half. This was continued until the end of the first month when the strength was increased to:

fat, 3.50; sugar, 5.40; albuminoids, 1.40, and fourteen drachms were taken at a feeding.

At three months the food was ordered as follows: Top milk, 8 ounces; water, 11 ounces; lime water, 1 ounce; sugar of milk, 2 tablespoonfuls, or approximately fat, 4; sugar 5.60; albuminoids, 1.60. About the average strength of woman's milk.

The infant's progress was practically uninterrupted. She cut her first tooth when six months and one week old. The other points I wish to speak of in connection with the case is as regards the use of Jersey milk and the addition of cereals. When the baby was three months old it seemed necessary, in moving to the country, to use Jersey milk, and it was hoped this would be digested, as the analysis of one specimen showed only 3.85 per cent of fat. Although the baby gained regularly on this Jersey milk an average of four ounces a week, the dejections were increased in number although generally well digested, but there was considerable wind. The milk was therefore changed to the mixed milk of Holstein and Ayrshire cows with immediate improvement in the digestion, and an increase of weekly gain in weight to ten ounces the first week, and eight ounces for each of three succeeding weeks.

From the eighth month on a cereal in the form of either barley or oatmeal water was added to the diet. Had she fallen off either in appetite, digestion or gain of weight I should have begun on a cereal before that time. I believe that most infants do better by the addition of barley or oatmeal water as a modifier when they reach the age of six to eight months, but that although the majority do not need the cereal before this age, there are some cases they do need it and do much better with it.

I have recently fed in sim-

ilar way a baby born at the seventh month or thirty second week. Here the gain weight, after the initial loss of five ounces, averaged six ounces a week for the first three months, the birth weight of five pounds and one ounce being a little more than doubled in that time.

In conclusion I would make a plea for simplicity in infant feeding, with at the same time approximate accuracy in percentages.

SULPHONAL, ASPIRIN, HEDONAL AND LYCETOL AS ANTIAR- THRITICS.

BY W. R. D. BLACKWOOD, M. D., PHILADELPHIA.

I suppose I am about the same as other people in my predilection for remedies, anyhow I like some which other physicians do not, and I cannot find virtue in others which suit my professional friends finely. In analgesics which lately have become such favorites, or such reliable articles in many directions, I have had difficulty in suiting myself, unless I stuck to one or two which cost too much, hence all new ones were looked into at once. And so it is with anti-rheumatic remedies; my old friends did the work all right, but anything new which might lessen the duration would be welcome. In analgesics we were limited to a few, and in anti-rheumatics we were not much better off. In pure hypnotics there were more to be chosen from, yet most had their defects. The old stand-by opium did the work as to giving sleep or freedom from pain if administered in proper doses, but it had its bad results, which sometimes almost overbalanced its good ones. The constipating tendency—the nausea; the frequent loss of appetite—all these are drawbacks to be deplored, yet what could we do? Sulphonal came along after a while, and it is a royal remedy; in many brain troubles such

as melancholia it is invaluable; as a pure sleep-inducing agent it never fails if given properly and at the right time, and with me it has no drawbacks of moment. I lately cured a case of melancholia which made mania imminent; but two weeks of treatment saved the patient, and this after she had run the rounds of several good men who somehow failed to think of this drug. Maybe they had their prejudices about which I spoke in the opening sentence of this paper. I am moved to speak of Hedonal because of the recent trials with it, and particularly so on account of its showing in several instances a well-defined local analgesic effect, one or two of which have been reported in other journals. (I see in looking over a sentence above that I spell "Sulfonal" "sulphonal," and although I have noted it being spelled both ways, I confess that I don't know precisely which is the better so I may alternate to let the readers have their choice, as Artemas Ward was used to do.) A special reason why I write concerning Sulphonal is that lately I have had some cases where it was quite difficult to induce sound sleep, and in most of them there were causes why salts of opium should be avoided. Running out of this drug in a person who was too far away from a good drug-store to chance substitution, (which I learned did take place now and then in that vicinity,) I gave the messenger some Hedonal with directions to use it, and at my next visit I found the effect was better here than with the Sulfonal. Thereafter during the progress of the malady I stuck to the Hedonal and it served me perfectly. It was whilst treating this case that I first used the article as a local anesthetic or analgesic—in case of hemorrhoids which were immensely painful in frequent "fits" of the piles. The

ointment which I ordered contained some 5 grains to the drachm as an experiment, and it worked all right, and promptly too. Now this was no accident—the attack had lasted only a day, and the man always had it badly for five or six days under any sort of treatment, so I referred the improvement to the Hedonal. In writing about some of the productions of that well-known firm which sends out so many good preparations, including those now under consideration, I was hauled up as being mistaken, for Hydonal acted only as a hypnotic! Well! what was a poor fellow to do? I simply stick to the result obtained here and again—Hedonal is a hypnotic of splendid qualities, but in the instances wherein I tried it in the other direction it filled the bill. I therefore suggest a trial of it in this way, and it cannot do any harm if it does no good. In the sleeplessness of typhoid it is a valuable agent, and I find it to work in small doses, although I am partial to full ones in most instances in all drugs. I don't use much medicine anyhow, but when I do I use real medicine—not sugar, and the patient knows that something has been ingested from the effect had. In pneumonia it acts nicely, without doing any harm as the opiates are apt to do, and in the wakefulness of hard drinkers either whilst on a debauch or in actual delirium it is a superior remedy. I have not tried it in acute manias of the insane, but soon some experiments in that line will be made. In grippe, of which we have had quite a lot during the autumn here it is first-rate—as it induces sleep without depression, and the canonical drugs are apt to affect the heart in those suffering from any cardiac difficulty.

Lycetol (Dimethyl-piperazine Tartrate,) is a white powder soluble in

water or such menstrua as are ordinarily used in the uric-acid or rheumatic ailments. For some time past I have altered my method of treating rheumatism or gouty attacks in favor of either Salophen or Aspirin. For many years I have relied on colchicum, as a wine or the acetic extract, with phytolacca and the iodides, but sometimes when colchicum is definitely indicated the diarrhoea induced by full doses is uncomfortable, if not unbearable in anemic people. Practitioners know how hard it has been lately to get a good salicylic acid, and so long as this is made synthetically we won't get it, and then it may be equally hard to obtain a genuine salicylate made from oil of wintergreen, because that drug is also got up synthetically; and if it is not, very often it comes from not wintergreen but birch. Possibly the latter plant may do, but that we don't know certainly. In addition to these defects the salicylates do not agree with all stomachs; particularly in prolonged cases, and when they do they sometimes demand increasingly large doses, which is a defect. So I began with the Salophen and later the Aspirin, and with satisfaction to both myself and the patients.

Aspirin (Acetyl-salicylic Acid) is given in about the same dose as the ordinary salicylates, and is soluble in water, whilst Salophen (Acetyl-para-amidophenol Salicylate,) is not. This want of solubility I do not consider a drawback, as a mixture in any bland mucilage such as that of acacia or even in an aromatic water suffices. With both these remedies I have had good results in many cases, and with them and my old combinations I could get along very well, but hearing from a friend that Lycetol was more than effective in the uric-acid troubles I tried it in a case of pretty severe gout, and

again in one of well-developed rheumatic arthritis. For a few days I saw no improvement but, as such is the case frequently in this distressing disease, I simply kept on, and in about a week the pain and joint disorder became quite bearable, whereas prior to this treatment it was one of the worst instances I ever saw. The outcome was quite satisfactory to us and in a week more the patient was out of the house at his business. The next case was one of acute articular rheumatism—a regular alternating affair, for it no sooner got one joint into bad shape than it skipped to another, and always as far away as could be accomplished. Now it was a knee—then an ankle; next an elbow, and soon the hip on the other side. When this got swelled up sufficiently it left that and travelled to a shoulder, and so on. But whilst the swelling wandered the pain did not for whether or not the joint was inflamed the suffering was there in great shape. I don't like to give morphia in any rheumatic case but it was imperative that something be done to alleviate the terrible agony—for such it was—of the sufferer. Her stomach, always an irritable one, was now in a very bad shape, so I had to be watchful as to the remedies—and I selected Lycetol with a recent success in remembrance. To begin with I made the amount low—only five grains, and slowly it was increased till fifteen was being taken every three hours. For two days I kept this up, and then the swelling and pains gave me the chance to lower the dose to ten grains every four hours. Within the week she was quite comfortable, and she made a rapid recovery. This woman was an old victim—she hardly ever went over a year without a return of her malady, but she seems to have gotten a clearing out which promises to

stop the return altogether, for the period of recurrence is now far past. I may say that as in my cases of intermittent I asked her to take a small dose every week after she was about her usual duties as a sort of preventative, and she did so for a couple of months with, I believe, much advantage. Possibly this will account for the deferring of a relapse.

Space at present will not admit of further references to cases but in a future paper I will have more to say about the advantages of these four articles—Hedonal, Sulphonal, Aspirin and Lycecol. From experience I think them to be extremely advantageous additions to our armamentarium against rheumatism and gout. Since writing this paper I have used Hedonal in a severe toothache by packing the cavity with the powder on cotton. The pain was relieved in ten minutes.

852 North Twenty-Third Street.

[We have used Aspirin and Hedonal with most excellent results, regarding the latter as being an almost ideal hypnotic, but its use as a local anesthetic is new to us. Dr. Blackwood is a careful observer, and his experience with the drug is to be accepted as stated. In order however, to get such results or good results from any drug, one must not only use it at the right time and in the right way, but one must be sure that the article in question is genuine. In this connection the reader is referred to the editorial upon Substitution.

W. H. W.]

SMALL POX CURES.

BY E. H. JUDKINS, M. D., PORTLAND, ME.

As, for some time past, I have experimented with several remedies for small pox and its alleged prevention, it might be that a few words on the sub-

ject would be of interest.

When last summer, an open "perambulator" which is Bostonese for a baby carriage—was wheeled from a crowded tenement, in a neighborhood where men, women and children swarm, to the City Hospital, we all knew as the vehicle rested in front of the visitor's entrance, opposite my "infirmery" door, that the baby having been found to suffer from small pox, an epidemic might be expected in short order.

Dr. Durgin, of the Boston Health Board, tells us that the first case—outside this origin—was in a factory here, where 2300 persons were employed. Within 48 hours of the discovery of its discovery twelve of these operatives were found to have the disease, without their knowing it. Since then there have been 500 cases in the city, but only 75 deaths from the disease.

As the cases have been increasingly more scattered, and contagion from various sources spread the infection in other States, let us try to study a few facts in methods of cure and their modern application. I do not now refer so much to the regulation treatment, as to the several means of relief not laid down in the routine practice. All physicians have their standard "Practice of Medicine" and their own experience, observation and judgment to draw from, but I have found "something new" perhaps, and maybe not!

Common cream o'tartar, or as I use it, the crude product, "prepared by a process of my own"—too long to give here now—when combined with certain antiseptics (sometimes even alone) will not only tend to prevent but often positively cures the disease.

Now, don't you smile, in the sweet, but more often sarcastic way of some doctors; for a doubted may be dishon-

est, unless he at least tries to disprove what has been done—a hard thing to do!

Whatever the *modus operandi* there is little room to doubt the tartar efficacy in several really severe cases I have been “caged” with. How it prevents, or why another “remedy” like a large tablespoonful of pure cider vinegar in half a cup of water four times daily, may also prevent the disease, I do not stop to attempt to explain. (It may be said, also, that the same sort of vinegar, applied externally, will allay the itching and largely prevent the pitting in small pox, although it may not be so effective or scientific as carbolate of camphor ointment—one part of crystallized carbolic acid, three of camphor and three to five parts vaseline, which will soon quiet the most intense itching.) (See Foster’s Therapeutics for this.)

Either application may be used at same time with salol (a dram a day as given by Begg, *Brit. Medical Journal*, June 2, 1900—or say 15 grains every four hours,) which alone has prevented pustulation.

If any doctor of to-day is too “scientific” to now use pure cider vinegar, he knows, no doubt, that Ingalls and Yeager treated 36 cases of small pox with baths of bichlorid without a death. (A six foot tub beside the bed, with a warm solution, 1 to 10,000, immersing patient 10 to 12 minutes, twice daily, thus reduce the mortality to a minimum of nothing! (*Jour. Am. Med. Asso.* April 28, 1900.)

As to the drug treatment that I have found to prevent the disease to a large extent, apparently, it has certainly effected the purpose, equally, in several cases of severe vaccinia and “stopped the action” of the vaccine virus; so that, in at least one instance, the

doctor said “it was not taking” and threatened to “do it over” but desisted when the medicine was omitted and “the action began again.” I now use the acid salt (*potassii tartras acida*) obtained from crude tartar deposits during fermentation of grape juice. This I sometimes combine with sulphur and some “antiseptics,” of course; and as I employ Eucalyptus, and wish to be “scientific”—as well as to add to the limited technical, not to mention pharmaceutical terms of the present day—I name the preparation, “Argolyptol.” This used every morning has, it seems, prevented small pox; and surely, has caused vaccine virus to cease its action, by some change in the system, I suppose. But, when there is a confluent case, or a handsome hemorrhagic one of small pox, I would add salol and some other “rubbish”—in shape of “antiseptics”—depending, certainly somewhat on the condition—and this, as usually prepared, I have called “Salolyptial.” There you have it—expressed about like the New Jersey “old woman” doctor’s idea—who “cuts the bark up the tree and calls it hypopelirum and cuts it down the tree and calls it lowpopelirum,” the one to prevent and the other to cure the severe wounds of “that Jersey animale, the skeeter.”

Still, the newly named and manufactured “medicines” I have mentioned, cut from the same vine but varied by a fig tree product, or a little apple juice, is a remedy that can be made to produce results in a “dread disease.”

I will soon report some of them, although I do not intend to insist that this shall be put on a par with the serum treatment but I do think it can be shown to be equally rational and efficient in small pox. (*See N. Y. Med. Jour.*, Sep., 5, 1896.)

IMPOTENCE, VARICOCELE, HY- DROCELE AND OTHER GENITO- URETHRAL DISORDERS.

BY W. H. WALLING, M. D.

The description of the conditions and the methods of treatment presented in this article are based upon an extended experience in Hospital and private practice, the methods described being most successful means of meeting the above and allied ailments.

IMPOTENCE, OR SEXUAL WEAKNESS.

This is one of the most common conditions that the specialist in chronic and nervous conditions is called upon to treat. It is confined to no age or condition after puberty. The causes are a lowered tone of the nervous system from disease, excesses of various kinds, overwork and worry. The latter may be said to be a very prominent feature. In this condition we find the testicles soft and flabby and frequently much smaller than the normal, and at times quite tender and even subject to attacks of more or less severe pain. The scrotum may or may not be unnaturally elongated but in some cases it will not contract except under very strong stimulation. Erectile power is weak, sometimes entirely wanting, and even if one be obtained, premature evacuation is generally experienced with attending dissatisfaction. Nocturnal emissions may be frequent with or without any pleasurable sensations—often without; at all times discouraging and debilitating, the effect upon the mind, in such conditions, being depressing to the highest degree. The sufferer seeks relief from strong stimulants to the organs involved, being generally given phosphorous and strychnia, combined with some unintelligible or unknown so-called drugs, which their proprietors claim are a specific in such cases. They

do more harm than good, in ninety-nine cases out of a hundred. They only act as a spur to a tired horse, adding no vitality, but rather using up what little remained.

As previously stated, the fault lies in a lowered or nearly lost nerve force, and treatment should be given in such manner and at such times as will the better tend to a restoration, not to a stimulation and a subsequent entire loss of power.

We have found electricity properly applied and in the proper form for each individual case, to be the best remedy for the conditions under consideration, ever yet administered. It is a vital force *per se*. It is similar, if not identical with nerve force, and supplements or supplies the latter when impaired or lost from any cause. The genito-spinal centre in the cord, is the seat of the difficulty. Its vitality being greatly lowered, it is unable to send out the necessary impulses for a proper performance of the functions dependent thereon. As before stated, stimulation will only do harm instead of good. What is demanded is a revitalizing of the nerve centers, and this electricity does.

The patient is partially disrobed and seated upon a suitable pad connected with the battery, and an examination made of the spine and surrounding tissues, to ascertain the extent of the damage. This is done with the faradic cathode. Having determined the condition, the patient is then treated with either the faradic or galvanic anode as the case may require; this being decided by the operator, as experience may dictate. If irritable, and this is frequently the case, this irritability of the nerves must first be subdued and then the nerves "fed" as we express it, in electrical term. This is done with the

galvanic current or by the combined galvano-faradic, using both currents at the same time. Static insulation is also of great benefit, administered, if deemed best, at the close of the sitting. Appropriate medication is also given, but this is as a rule, deferred until after the patient has been under treatment for some little time. Active stimulation must be avoided and diet, rest of the functions and a proper hygiene instituted. In most cases there will be found a very irritable condition of the urethral tract, especially in the prostatic portion. Soothing application either with or without the current must be made directly to the parts, treatment to be given two or three times per week as the case may require. The galvanic anode only is to be used in the urethra, with a current strength of from three to four milliamperes, using only sufficient battery power to carry the current on, and the instrument slowly withdrawn, thus acting upon the whole tract. The effect is most marked, the hyperesthesia being subdued, and a general sense of comfort and well-being follows. At first it may not be possible to insert the bougie to the full depth, in which case a five per cent. solution of Beta-Eucain may be injected, after which the current may be used with most admirable results.

In the next article, the other conditions will be considered.

1602 Arch Street.

THE TREATMENT OF PULMONARY TUBERCULOSIS BY CARBONIC ACID.

BY DR. HUGO WEBER, ST. JOHANN, SAARBRUCKEN.

After referring to the antagonism between pulmonary tuberculosis and carbonic acid which he pointed out several years ago, the author states

that when carbonic acid is present in the lungs in sufficient quantity, the tubercle bacilli cannot develop. In Rokitanski's phthisical condition, the lungs are abnormally large, and the protection which the blood containing carbonic acid affords is not so great as when the same quantity of the acid is conveyed to small lungs; the points of the lungs, too, from their high situation, receive little of the impregnated blood, and are therefore most seriously affected by tuberculosis.

During the pregnancy of phthisical women the disease is arrested, because the organism of the child fosters the production of carbonic acid. Patient suffering from cardiac disease, in whom venous hyperæmia of the lungs exists, are to a considerable extent immune from phthisis, while children born with pulmonary stenosis all die of consumption. The reason is that because of the contracted pulmonary the blood containing carbonic acid is sparingly conveyed to the lungs. In cases of emphysema, with venous hyperæmia, there is also considerable immunity from tuberculosis.

Furthermore, the success of the sanatoria for consumptives depends to a great extent upon the supply of carbonic acid. The dietetic-physical method applied in these establishments is based on the principle of nourishment, or, which is the same thing, an increase in the production of carbonic acid.

After having cited a number of other observations, the author declares that attention to other phenomena will confirm the soundness of his theory. He thinks, however, that all specialists in the treatment of phthisis will agree with him that success can only be expected when it is possible to remove all disturbances of digestion, and to increase the produc-

tion of carbonic acid by means of nourishment. His endeavour is therefore, in the first place, to improve the appetite by means of extract of Chinin. Nanning either by itself or with acid muriatic and pepsin. In cases of hyperacidity bismuth, subnit, and pepsin, aa 0.5 grm., three times a day, may be given for some time. The production of carbonic acid is assisted by the administration of Laevulose, or fruit sugar, which, as Kuelz has shown, is converted in the system in a manner entirely different from other sugars, and for this reason is well borne by diabetic patients. The dosage prescribed is a table-spoonful of Schering's Laevulose four times a day until cure is effected. As Laevulose is a medium for nourishment rather than a therapeutic agent, it may be taken either before or after meals, or may be used instead of ordinary sugar in the preparation of sweet dishes or beverages, for which it is well suited. According to experiments of L von Alder and von Clemm in gastric fistula of a dog, it appears that Laevulose is likely to play an important part in the resources of the organism (*vid Therapeutische Monatshefte*, August, 1901). Laevulose has been shown to have a greater binding power on hydrochloric acid than other sugars, and does not contain the disadvantages of sugar of milk, which often produces diarrhoea. It has been proved that in the administration of fruit sugar, or Laevulose, the quantity of the gastric juice is increased owing to the reduction of acidity, and therefore it constitutes an important factor in nourishment, and also a powerful digestive medium. It is, therefore, not to be wondered at that, as has been shown in a series of successful experiments on patients in the early stages of tuberculosis, Laevulose alone can be

given with the best positive results. Dr. Weber continues:—

"In more advanced cases, where cavitation has taken place, Laevulose, or the production of carbonic acid by other means, is not sufficient, and requires to be supplemented by additional treatment. Starting with the supposition that hydrocarbon, when absorbed by the body, is converted into carbonic acid and water, I have injected vaseline and paraffinum liquidum into the subcutaneous tissue. I have been enabled to obtain an absolutely pure paraffinum liquidum, of which 10 grms. is injected, twice daily, with a serum or other syringe. Care should be taken that the needle used for this thick but fluid preparation should be of as large a bore as possible. Of course, the surrounding skin should be thoroughly disinfected, and the point where the needle enters be protected by an adhesive plaster. I select the back for the injections, and proceed for each injection, in the following manner;—I imagine four lines, of which two are parallel and the width three or four fingers from the vertebral column, running from top to bottom; the other two run the width of two or three fingers to the interior from the hind axillary line parallel with it. I begin on the right-hand side on the top of the line which runs down by the side of the vertebral column, and inject 10 to 12 c. m. at intervals. Having arrived at the end, I turn to the left side and choose the imaginary parallel lines, by the side of the hind axillary line; this being completed, I return to the right side and choose the imagined direction by the hind axillary line. The fourth line is that which runs on the left side parallel with the vertebral column. This is repeated

until cure is effected, for which usually 200 injections are necessary. I wish to draw particular attention to the fact that these injections are not made under the skin, but under the subcutaneous skin tissue which is lifted with the skin.

"The purest form of paraffinum liquidum is obtained under the description, 'Antiphthisicum.'

"By this combined process—Laevulose internally and Antiphthisicum injections—I have been enabled to cure patients in advanced stages of tuberculosis such as are often met with in ordinary practice. Out of fifty-two cases which were reported in the March number of the *Therapeutische Monatshefte* of this year, I have cured thirty-two, fourteen were considerably improved, and only six deaths occurred."

Baby Lillie.

Our baby is a treasure,
A rich and precious pearl.
And we fondly love and cherish
The darling little girl.

We find her sweet and cunning,
With her pretty winsome ways,
And we pray the Lord to bless her
In all her coming days.

That on her path bright sunshine
May shine where e'er she goes,
And her cup so full of mercies
And joys, it overflows.

Should sorrow e'er o'ertake her,
May she learn to look above;
And feel 'tis safe to trust in
Her Heavenly Father's love.

Then darling little Lillie,
I leave you in God's care,
And pray He ever keep you,
Through life from every snare.

Our babies, while we love them,
We know must pass away,
Grow up to meet life's duties,
Stand in our place one day.

Mrs. Jos. R. CLAUSEN...

Philadelphia... Jan. 31, 1902.

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ORIGINAL ARTICLES of practical utility and length are invited from the profession. Accepted manuscripts will be paid for by a year's subscription to this journal and one hundred extra copies of the issue in which such appears if desired.

Editorial.

REGULATED VICE.

We have before us two very interesting pamphlets published by the "Friends' Association for Abolishing State Regulation of Vice, 47, Devonshire Chambers, Bishopsgate Without E. C." London.

They concisely compare the conditions of "England Without Regulated Vice," and "The Failure of a Century of Regulated Vice in France."

While statistics are not always conclusive, yet the following are very suggestive to say the least. In England the Contagious Diseases Acts were repealed in 1886, but had been previously suspended in 1883, so that from 1884, onwards, England has been free completely from the Regulation system.

The tables show that deaths from venereal maladies amongst the civil pop-

ulation, of all ages, per million of inhabitants, in 1884 were ninety-five, (95). In 1889, this number had been steadily decreased to sixty-seven (67.)

Deaths from venereal maladies of children under one year of age, per one hundred thousand living (100,000) were two hundred and thirty (230) in 1884, and one hundred and fifty-nine (159) in 1889.

Recruits from the army rejected on account of syphilis, after two medical inspections two months apart per ten thousand (10,000) applying for enlistment were reduced from one hundred and six (106) in 1884, to twenty-seven, (27) in 1889.

In the home army the admission to the hospitals for venereal maladies per one thousand (1,000) men of the strength, were two hundred and seventy-one (271) in 1884, as against one hundred and twenty-two (122) in 1889.

The Home Station of the Navy reported admissions to the Hospitals for venereal maladies per one thousand (1,000) men of the strength, two hundred and three (203) in 1884, and one hundred and thirty-one (131) in 1889. All of the above are from the official records, and may be considered as being correct.

In France, the State has had a system of Regulated Vice in force since 1802. "The failure of regulation, both morally and hygienically, is notorious in France. It is in relation to the army that it has been most astringently applied, and it is in the army that its results have been most disastrously felt." "Jules Simon says that the French barracks are a place of *education malsaine*, and Emile de Givarden says that they 'corrupt body and soul.'" Other equally strong statements might be quoted.

The whole question, as presented in

these pamphlets, shows an utter failure of the Regulation system in both countries.

Much has been said in favor of such a system in this country; but the results in the two countries named would certainly seem to render such action on our part unwise in the extreme. "That which is morally wrong, is also hygienically, socially, scientifically and in every other way wrong." To all of which we give an unqualified assent.

Legalized prostitution can never remedy the evil. The only remedy lies in a properly educated moral sense, and this can only be accomplished through moral and religious means, the safeguards of society and the home.

W. H. W.

REPORT OF THE SECRETARY OF THE TREASURY.

We have before us the statement of the Public Debt and of the cash in the Treasury of the United States for the month of January, 1902.

There is a reserve fund of \$150,000,000.00 and an available cash balance of \$174,796,646.42. This is a most admirable showing of which every American may justly feel proud. There is much talk, in some circles, about a very material reduction in the revenues, in order to lessen the accumulation of money in the Treasury vaults. This may well engage the earnest attention of national legislators and financiers, but it is also well to go slowly in that direction. The United States should at all times keep a large, or at least a reasonably large balance in the treasury, in addition to the gold reserve. We do not want to again witness a repetition of the necessity of the government issuing bonds in order to get gold to restore a seriously impaired reserve. With the Isthmian Canal and a Pacific Cable to be carried

through, to say nothing of much needed coast defences and river and harbor improvements, the balance in the Treasury is none too great. All that is now required is a removal of the Spanish-American war taxes, or such further portion of them as may be deemed best, and a wise expenditure of the revenues and still keep a good surplus. A substantial bank balance is a tower of strength to the nation as well as to the individual. We believe that the surplus will not be seriously impaired during the present administration, at least, and we hope that it will be kept up to a reasonable figure in any event.

W. H. W.

THE ANTIKAMNIA CHEMICAL COMPANY'S NEW LABORATORY.

Frank A. Ruf, President and Treasurer of the Antikamnia Chemical Company has just purchased a lot 80x109 feet, on the northwest corner of 22nd and Pine Streets, for \$20,000.00 cash, on which his Company will begin the erection, early in spring, of a new "Antikamnia Laboratory," five stories high, covering the entire lot. The improvements will cost about \$45,000.00 irrespective of the laboratory apparatus and appliances which will be of most approved pattern, from Darmstadt, Germany. The offices and various departments will be fitted with all modern conveniences, making the whole plant one of the most complete Specialty Laboratories in the United States.

The Antikamnia Chemical Company is one of America's, if not of the world's, best known Pharmaceutical concerns and justly so. Energy, enterprise and push, backed up by the judicious and liberal use of printer's ink, in keeping their line of prepara-

tions in touch with the medical profession, from one end of the universe to the other, have made it so.

THE SUBSTITUTION EVIL.

We believe that the druggists, as a rule, are honorable men, and that they fill our prescriptions as written. That there are some who do not do this is unfortunate, not only for the patient and the doctor, but it also reacts disastrously upon the dispenser himself. There are many instances, however, when an adulterated or spurious drug or chemical has been unconsciously obtained.

We once ordered some ground flax seed from a very reliable firm, which upon use, proved to have been mixed with mustard, the result being that the patient was blistered. The matter was traced up until finally it was thought that a clerk in the wholesale house had carelessly thrown a scoop, partly filled with ground mustard, into the bin containing ground flaxseed. The mistake was never repeated.

The most prolific source of substitution is to be found in unscrupulous manufacturers, who imitate or attempt to imitate, or who deliberately adulterate the popular products of well established and reliable firms. They even go so far as to successfully counterfeit labels and containers, the goods being offered at a greatly reduced rate.

We were approached some little time since by the representative of a so-called manufacturing concern, and offered phenacitin at just one-half the regular rate, with the assurance that it was genuine. We did not purchase, feeling certain that something was wrong, somewhere. This same product doubtless found its way to the dispensary shelves of perhaps not a few druggists who wished to "legitimately" add to their

profits. Sulfonal, Trional and Aristol and other fine chemicals have also been sophisticated to the detriment and damage of those who have unwittingly used them.

The only way in which this vile practice of substitution and sophistication can be remedied is for the physician to patronize only well known and entirely reliable pharmacists, who purchase original packages from either the manufacturer or a reliable wholesale house, or else make such purchases himself and dispense his own medicine. This latter cannot always be done, especially with costly preparations, as the doctor as a rule does not wish to charge for medicine furnished; but unless he is certain that the genuine article will be furnished his patient, or if there be any doubt in the case, he had much better supply it himself, even at a temporary loss. This the writer has frequently done, and has never yet seen cause for regretting such action.

We should jealously guard our lease of supplies, and take the time and trouble to make sure that our patients get just what is ordered.

W. H. W.

TOXINS AND ANTITOXINS.

The disasters following the recent employment of diphtheritic-antitoxine in St. Louis and other places has called forth free discussion by the lay and medical press on the subjects of induced inoculation as a remedial, prophylactic agency in disease. Moreover, in this connection the question has been raised whether or not it is more economical and safer to depend on a municipal supply from the city laboratory than to purchase it from the commercial houses.

There lies before us the able dis-

course on the above subject by Professor W. R. F. Dalton, before the Society of Medical Jurisprudence, in New York, on December 10, with discussion thereon by Drs. Daniel Lewis, I. N. Lori, Thomas H. Manley, Health Commissioner Jenkins and others. Professor Dalton took the ground that the duty of the city began and ended when it established a laboratory for the purpose of testing the quality and purity of those antitoxines on the market, and that it was no part or purpose of the government to manufacture medicines and compete with commercial houses in the sale of them.

Vaccination came in for an extended discussion at the same meeting.

Little wonder, indeed, that all the pathies, the nostrum vendors and the quacks thrive when therapeutics bristle with so many uncertainties, or that the faith of the people in the medical profession is so often shaken, while it is impossible for all scientific men to strike a general consensus of opinion on questions so vital as those involved in the antitoxine remedies.

At the outset, at the risk of ostracism and being howled out of the pale, let us inquire what their real merits are, is there such a thing as a "pure" antitoxine, and if so, is there anything that should stand in the way of the government providing the very best for the citizens?

Vaccine is the product of an infected sore on the cuticle of a calf *i. e.* the commercial material, the most now prepared. Not long since, however, "scabs" of dessicated lymph and pus, borrowed from one infected child was transferred to another. Vaccination provides a large degree of immunity in those effectively inoculated, against small-pox. But what of small-pox? Well, some of its epidemics strike with great force,

others are comparatively mild. The enemies of vaccination and many who occupy a neutral ground insist that the human family has suffered deterioration since its introduction; that it spread far and wide tuberculosis, syphilis and rickets, that viewed in any light it must not be regarded as an unmixed blessing, and hence in the country which gave it birth, in England, we have recently witnessed it proclaimed a failure. We saw the British Parliament last year, practically repeal the vaccination laws, and leave it optional with a parent to vaccinate his children or not; the foremost advocate for this drastic revolutionary action in the House of Lords, was Mr. Lister, the founder of the antiseptic treatment.

Evidently the time is not far distant when Americans who boast of the fullest measure of individual liberty will soon agitate the question, for no government on earth has the right to force the views or opinions of one sect, in medicine or religion, on a free people.

It must be remembered too that Boards of Health or Sanitary Bureaus though armed with almost plenary powers, are not the sole repositories, or the monopolies of knowledge. Far be it from our purpose, to belittle the revelations of science, or weaken the faith of the medical profession in the efficacy of any real remedy, but we would ask our brethren to open their eyes and cogitate for themselves. The flesh of many a doubter sizzled at the stake, because he had the courage of his convictions, but truth which will never down, later dawned on the minds of the misguided multitude, who would now perpetuate his memory in granite.

Antitoxine is yet in its trial stages, whether the preparation possesses any value at all, independent of those following the free admixture of the car-

bolic acid it contains, is a question by no means settled.

Why the horse is chosen as the host, for the reduction of this virulent infection seems by no means clear, unless it be expediency and economy. Worn out, used up horses are said to serve admirably. In the horse the jugular vein is very large and superficial, besides the animal is strangely insensible to pain in the cervical region. We have seen the large hollow trocar driven into the tissues here without the quiver of a muscle. But the equine species *Vernueil* discovered, was the source of the germ of tetanus. He found it in large numbers in the faeces and in the mucous glands of the colon of the horse. May it not be an occasional inhabitant of his blood? We may have hæmatogenous infection of tuberculosis. We certainly do have it in cow-pox and why not in the horse?

Some types of diphtheria are terribly mortal, but let us take a retrospect of its treatment and endeavor to find some safe antidote for it, in the vegetable kingdom.

T. H. M.

AN ANALYSIS OF FIVE THOUSAND CASES OF DEATH FROM MALIGNANT DISEASE.

E. N. Nason, M. D. (*British Medical Journal*, May 18, 1901,) gives the following conclusions from the report of the committee appointed to make an investigation as to the influence of locality on the prevalence of malignant disease:

"1. Certain more or less well defined areas exist in which the mortality from cancer is markedly above, and others in which it is markedly below, the average for England and Wales.

"2. Although age and sex undoubtedly influence this variation, in some

cases considerably, they account for only a small proportion of it.

"3. Owing to the great difficulty of diagnosis in many cases of internal cancer, the death-rate from cancer is probably at present underestimated.

"4. Contamination of the soil or subsoil for a long period with decomposing organic matter is probably a factor in the production of a high death-rate from cancer.

"5. A damp, ill-drained, water-clogged soil, of whatever geological formation, is more frequently associated with a high cancer death-rate than is a dry, well-drained soil.

"6. There is abundant evidence of the existence of groups of houses in which cancer is found with marked frequency; and some evidence which tends to show that second and third cases often occur in the same house with greater frequency than can be accounted for by mere coincidence.

"7. Cancer occurs more frequently in old than in new houses and districts.

"8. There is some evidence suggesting that under certain circumstances cancer may possibly be transmitted from one person to another in constant close association.

"Although the evidence collected by the committee does not, of course, disclose the nature of the exciting cause or causes of cancer, it points, I think, very strongly to the existence of some definite exciting cause or causes:

"1. Prolonged local irritation, due to various causes, setting up local inflammatory changes in the irritated tissue.

"2. The immediate or after-effects of direct and sudden injury, whether mechanical, thermal or chemical.

"3. Syphilis and possibly other constitutional diseases which are associated with local tissue changes.

"4. The tissue degenerations of advancing years varying with the age.

"5. Individual proclivity.

"6. The presence of fetal remnants or 'cell rests.'

"7. (According to the committee's report) The residence in the neighborhood of a sodden and sewage-soaked soil.

"Now all the predisposing causes, except possibly the last, resolve themselves into condition in which the resisting power of the individual cells have most probably been reduced. At any rate, the vitality of the cells or their power of specialization has been interfered with.

"It is in just such a condition that the invasion of a parasitic organism might be expected to have the most chance of success. And at the existence of some external exciting cause is necessary in order to explain the known facts in the large majority of new growths, one can hardly refrain from suggesting that these various predisposing causes are simply conditions which prepare the soil for the advent and growth of some essential exciting cause, possibly a parasitic organism.

"But if such germ exist, how does it gain entrance into the body? How does it reach the tissue in which by its influence or growth a malignant tumor is subsequently found? This may take place in one or more of the following ways:

"1. Absorption from the intestinal tract.

"2. Absorption from the respiratory tract.

"3. Direct inoculation (a) through abrasion of the skin or mucous membranes, (b) by the bites of blood-sucking insects."—*Indiana Medical Journal*.

BOOK REVIEWS.

NEW WONDER-BOOK.

World's Fair Classification Shows the Marvelous Activity of the Human Race.—Every Art and Industry Has a Place.

An advance copy of the "Classification Book for the Louisiana Purchase Exposition at St Louis in 1903" has been received. Fifty-three pages are required for a mere enumeration of the groups and classes of exhibits. The exhibits of the entire exposition are divided into fifteen departments as follows: education, eight groups; art, six groups; liberal arts, thirteen groups; manufactures, thirty-four groups; transportation, six groups; forestry, three groups; fish and game, five groups; anthropology, four groups; social economy, thirteen groups; physical culture, three groups. The total shows 144 groups and 807 classes, and under each class is a possibility for a multitude of exhibits. Nothing reflects more clearly in so small a space the variety of human occupations or more comprehensively the broad scope of the great exposition which the people of St. Louis are preparing for next year. A place is provided for every conceivable product worthy of exhibition and all nations of the world have been invited to take part. Acceptances have been received from many. The work of construction is progressing earnestly. The buildings will have an aggregate floor space of 200 acres and the grounds a total area of 1,000 acres. The money now available aggregates \$15,000,000, besides \$1,000,000 appropriated by the State of Missouri and various liberal sums from other States. The Classification and the Rules and Regulations of the Expo-

sition will be mailed free on application to the Director of Exhibits, World's Fair, St. Louis.

PAMPHLETS AND REPRINTS.

The Complications and Degenerations of Fibroid tumors of the Uterus as Bearing upon the Treatment of these Growths; also—The New Formation of the Female Urethra. By Charles P. Noble, M. D., Philadelphia.

Aneurism of the Thoracic Aorta of Traumatic Origin; Treatment by Introduction of Wire and Electricity. By De Forrest Williard, M. D., Philadelphia.

Simple and Ethereal Sulphates. A Simple and Rapid Method for their separate determination—thirty minutes. By G. W. McCaskey, A. M., M. D., Fort Wayne, Ind.

Chronic Gonorrhea and Post-Gonorrheal Urethritis. (a sketch of their modern treatment.) By Ferd. C. Valentine, M. D., N. Y.

Is Medicine Founded on Truth? By W. J. George, M. D., Johnstown, Pa. This is a most interesting essay, but we wish that the writer had more fully elaborated his views, the subject being one that may well claim attention.

(W. H. W.)

GERMAN MEASLES.

Kraatsch says that the swelling of the cervical lymphatic gland, especially those at the back of the neck and over the mastoid, is pathognomonic of German measles and distinguishes this disease from measles.

THE MEDICAL TIMES AND REGISTER sent two years for \$1.00, if subscription is received before March 1.

OPHTHALMOLOGY

In charge of J. A. TENNEY, M.D., Boston.

INJURY OF BOTH EYES BY LIGHTNING.

IDA R. GRIDLEY, M. D.

I was called to see Mrs. G., July 8, 1901, who had been struck by lightning about 24 hours previously. When struck she was wearing glasses, and was endeavoring to put down a window which was partially shattered by the bolt.

On examining her eyes I found the conjunctivæ injected, a well marked white line passing across each cornea, corresponding to the palpebral fissure, the lower half of both corneae hazy, and the pupils contracted to a pin point, and but little responsive to light.

I found it impossible to examine the eyes with the ophthalmoscope. Vision in the right eye was fingers at one foot, in the left at six inches. The area of vision was much contracted. She was blind when she first recovered consciousness after the shock, but began to see a few hours later. Both eyes were very painful and sensitive to light. Under the use of cocain and atropin the pupils dilated, and I was able to see the fundus of each eye, though the media continued to be more or less hazy for days.

Pain kept up with varying severity for more than three weeks, but both corneae cleared, and no iritis or other inflammation occurred. At last a peculiar conjunctivitis, I should call it a pseudo-trachoma, occurred; that I was obliged to treat with silver nitrate, as I would a true trachoma. I gave the last treatment nearly six weeks after the eyes were injured. Two weeks later I found vision perfect in each eye, when fitted with the proper lens.

Collinsville, Conn.

Pagenstecher recommends large doses of the iodides in episcleritis and ocular palsies, giving thirty to forty grains three to five times a day. He prefers the sodium to the potassium salt, and adds potassium bromide as a cardiac sedative.

Viau has used crude petroleum oil in eight cases of diphtheritic conjunctivitis with uniformly good results. He swabbed the conjunctiva twice a day with the petroleum, using in addition frequent installations of hot boric acid solutions, and employed hot compresses.

Smirnow states that peronin produces prompt and lasting anaesthesia when applied to the eye, at the same time contracting the pupil, and lessening intra-ocular tension. Anaesthesia is produced by two or three instillations of a one-third per cent. solution. Strong solutions produce vascular congestion and edema.

Dr. Wuerdemann reports two cases of recovery from embolism of the retinal arteries by deep massage of the eyeball. He used eliminative and alterative treatment at the same time, but attributes the cures to the dislodgement of the clot by mechanical means.

According to Ricchi, holocain may produce a loss of 0.50 D. in accommodation. It has antiseptic properties, hence is valuable in corneal ulcers. A one per cent. solution produces anaesthesia in two or three minutes which lasts ten minutes. Congestion and smarting attend its use, but they rapidly subside.

Snell uses cuprol for trachoma, instead of copper sulphate. It is a combination of copper and nucleic acid, and contains six per cent. of copper. He dusts the powder on the everted lids at intervals varying from a day to a week, and gives the patient a five per cent. solution for home use. It is very

soluble in warm water, is less irritating than copper sulphate and penetrates the tissues more deeply. The use of cocain is unnecessary.

Ziegler, (*Pennsylvania Medical Journal*.) treats purulent ophthalmia with daily application of a ten grain solution of silver nitrate to the everted lids, neutralized by a saturated solution of salt, followed by a bichlorid wash. Ice compresses should be applied to the lids, and changed every minute, until the swelling and discharge are markedly diminished. He recommends a 1 to 4000 bichlorid solution every fifteen minutes for the first three or four days, when a 1 to 8000 solution may be used at longer intervals.

Dr. William H. Wilder, (*Jour. A. M. A.*) cites three cases of corneal opacity caused by syphilis. Denarie, Mooren, Panas, Perrin, and many other ophthalmologists deny that syphilis ever causes diffuse keratitis; but Lawford cites a case in which keratitis developed four and a half months after the primary lesion, and another in which eleven months elapsed between the primary sore and keratitis. Trousseau has seen eleven such cases, and Lang cites a case in which keratitis developed twelve years after infection.

Kenneth Scott, (*Edinburgh Medical Journal*) is positive that the eruption in phlyctenular conjunctivitis is not a hollow vesicle containing fluid, as in herpes, but is solid, and is composed of cellular elements. He believes that it is a local manifestation of the scrofulous diathesis. He advises as treatment, improving the general condition of the body, emphasizing extra nourishment as being of more importance than drugs. He objects to local irritants, using atropin in mild cases. In severe cases he uses hot fomentations of a weak solution of salicylic acid, tincture of

aconite, arnica, belladonna and opium. He holds that this treatment aborts early cases, and reduces the liability to permanent opacities in cases more advanced.

THE PREVENTION OF OPHTHALMIA NEONATORUM.

In an article on the prevention of ophthalmia neonatorum Dr. Lucien Howe, of Buffalo, (*Philadelphia Medical Journal*, January 18, 1902,) whose name is so prominently identified with this subject, urges the enactment of laws which will make it compulsory upon the practitioner to adopt some form of prophylaxis against this disease, which is responsible for so many cases of blindness. He cites statistics by Kostling, showing that in 17,000 births where no prophylactic treatment had been employed some race of ophthalmia developed in over nine per cent, whereas in 24,000 children treated by the Crede method the number who developed the disease was only one-half of one per cent. The Crede method, however, has the disadvantage of always producing some pain and usually more or less conjunctivitis, while in a few instances it has given rise to corneal ulceration. According to the statistics of Piotrowski, in 1030 children treated with a strong solution of boric acid and a ten per cent. solution of protargol not one case of ophthalmia occurred while slight catarrhal conjunctivitis was observed in only 1.2 per cent. Aside from the numerous favorable reports on the value of protargol as a prophylactic against this affection by European authors, the drug is preferred for this purpose by many ophthalmologists in this country, including Drs. Alt, Peck, Cheney, Fox, Hotz, Zimmerman, Converse, and Todd. In commenting upon Dr. Howe's paper the *Philadelphia*

Medical Journal remarks editorially: "If we cannot reach the fons origo of ophthalmia neonatorum, we can say at least save the offspring from a life of darkness, and protect the community from a source of burden and expense. That this can to an enormous extent be accomplished by prophylactic instillation need hardly be repeated, and its negligence constitutes a sin of omission that deserves commensurate punishment. The enactment of such a law is feasible, its interpretation obvious, and its enforcement not difficult, provided the accoucheur receives the intelligent support of an intelligently instructed community."

THE KING OF THE CERREALS

Wheat is justly conceded the first rank among the cereals, but unfortunately, as most generally used, much of its good and essential qualities are rejected in preparing it for consumption. Some bakers supply what is called "whole" wheat bread, for which there seems to be but a limited sale. This is because our people have been educated to demand white flour. Bran bread is a very poor substitute for the whole wheat loaf, but the latter is too often not sufficiently baked, or is poorly prepared for the oven. Properly prepared and thoroughly baked, it is as wholesome as yeast loaf can be, and is highly nutritious.

We have of late, been using the Shredded Wheat Biscuit, which supply all of the available constituents of the grain, without any drawbacks, as they are prepared without a ferment of any kind, and are crisp, delicious and will keep an indefinite length of time without deterioration, which cannot be said of any other cereal preparation. Too much cannot be said in their praise.

W. H. W.

Surgery and Surgical Pathology.

IN CHARGE OF

Dr. T. H. MANLEY, NEW YORK.

DAMAGE TO THE URETER DURING THE COURSE OF OPERATIONS IN THE ABDOMEN AND PELVIS.

BY DR. WEINREB.

Archiv. Fur. Gynaecologie, 1901.

The author begins the consideration of this important topic, and well observes that in all gynaecological operations, a wound of the ureter is a most serious mishap. Wounds of the bladder may occur during vaginal extirpation of the uterus, but these come readily into view and are generally capable of immediate repair by suture.

In spite of improvement in technique in operating, and every foresight we may observe, in deeply seated, firmly lodged growths, in their complete detachment, the ureter may be lacerated, divided, or even in places partly resected; in the intra ligamentous, in malignant tumors, in dermoid cysts of the ovary, in proliferous cysts, in myoma, pyosal pynx, etc.

The anatomical variations and diseased conditions of the ureters are numerous. During operation when haste may be necessary, when the field may be obscured by bleeding, the ureter is in great danger of being wounded. In order to avoid injury to the structure, it is necessary to freely separate the bladder and the ureteral ends from the uterus.

It is in effecting this isolation that danger of these wounds occur. Kelly employs catheters in the ureters before operation; these are left in position until complete isolation is effected.

Tuffier insists that the first step in complicated cases is to lay bare the ureters; they must be palpated and defined that they may not be ligated. He observes that the care of the ureter should engage our attention from the beginning to the end of all difficult or complicated operations in the pelvis.

Blumenfeld—*Uterenverletty ty ungen Munch Med. Wochschrft Bd. XLV S. 992* has collected from various sources a large number of cases of uteral wounds inflicted in the course of operation on the pelvis. In one case Purcell unconsciously ligated both ureters. The following day abdomen was reopened and the ligatures removed. Patient made a good recovery. Fauke wounded the ureter in two cases of total extirpation of cancerous uteri. In both the ureter was implanted into the bladder, one recovering. Maupner in a case of myomectomy divided a greatly thickened ureter. This was implanted in the bladder with success. Lotheisen resected 3 centimeters of the ureter in removing a cancerous uterus. He was able to draw down the proximal end and effectively implant it in the bladder.

Several other cases of re-united ureter are recorded. Then the question of primary or secondary nephrectomy is considered. Bastianelli was among the first to ligate the divided ureter and leave the kidney. Dr. Weinreb reviews the literature on experimental occlusion of the ureter in the lower animals, and shows that antiseptic, total constriction of the ureter on one side gradually leads to first a hydronephrosis, later absorption and finally to the gradual but complete atrophy of the kidney.

The writer records a case of his own, in which for hysterectomy for cancer of the cervix, he inadvertently removed three centimeters of the ureter. The

patient was in great collapse, not permitting of nephrectomy, the ureter was very short and indistensible, hence he closed it with a strong ligature.

Hydronephrosis followed, later resorption, ample function by the other kidney. Recovery was later complete. Dr. Weinreb leaves the profession under a great obligation to him for the able and timely contribution of which the preceding notes are but a very incomplete abstract.

For some reason not by any means clear, the importance of this subject has been but casually touched on by most writers on pelvic surgery, whereas, the wounding of the ureter is always a possibility in operations, on all complicated or malignant pelvic cases. Moreover, its gravity is sometimes great, so that while in other respects an operation may have been complete in every detail, yet an open ureter, undiscovered, may cost a valuable life.

For this reason, one who would accomplish the best results in pelvic surgery must first *select his cases*; secondly, he must be a master of anatomy and its deviations here; thirdly, when accident occurs, he must be familiar with the best measures to lessen its consequence.

Selection of cases involves first, the choice of those whose general condition is fairly good; those who are free from a settled cachexia, or advanced organic disease. Secondly, he must clearly comprehend the character of the *local processes*, the type of *pathological change*. And here we must draw the line between the non-malignant and the malignant; of the latter we must determine whether the disease be in its initial or advanced stages.

Taken early before infiltration becomes widespread in cervical epithelioma, amputation of the uterus with-

out danger of wounding the ureters is not difficult. But in advanced cases, the ureter is so gathered up in the scirrhus mass of the utero-vesical fascia that its isolation is quite impossible, and it can scarcely escape being wounded.

In this class it is of the greatest importance as a preliminary step, to first catheterize the ureters, leaving the instruments in position as guides so as to penetrate deeply into the pelvis. But if damage of the ureter is inevitable, it is well that we are thoroughly familiar with the various means at our command for its most appropriate treatment.

T. H. M.

BETA-EUCAIN INFILTRATION ANÆSTHESIA.

In an elaborate paper entitled "Experimental Investigations on Infiltration Anæsthesia," from the Private Surgical Clinic of Dr. H. Braun, in Leipzig, Dr. Paul Heinze, of Dresden, thoroughly examines into the value of the various local anæsthetics, fixes the limits of their efficacy, and ascertains the factors which are essential to the determination of the usefulness of a material to be employed for the production of infiltration anæsthesia ("Archiv für pathologische Anatomie und Physiologie und für klinische Medizin," Vol. 153, No. 3.) This is the first comparative investigation which has been made in a thoroughly scientific and unimpeachable manner.

Dr. Heinze demonstrates beyond peradventure that a most important factor, and one common to all watery solutions employed for infiltration anæsthesia purposes, is that of osmotic tension, which determines the occurrence either of swelling, the solutions giving up water to the tissues, or shrinking when they withdraw fluid

from them. A definite concentration of any solution, however, is osmotically indifferent; that is to say, it causes neither of these effects, has an osmotic tension exactly equal to that of the tissue fluids, and is therefore called isotonic to them. Pure water alone is an intense irritant to the sensory nerves, and manifestly damages the tissues; and anæsthetic solutions diluted with it beyond a certain extent have the same effect, and render the injections painful. After the lapse of a little time this pain may be masked by the specific action of the anæsthetic, but it returns as after-pain when this ceases. Hence arise the painful infiltrations which may persist for days.

Heinze has demonstrated that the addition of ordinary cooking salt in proper proportion to the water in which the anæsthetic agent is dissolved diminishes or entirely obviates this source of irritation. For human beings, a saline solution of nine-tenths of one per cent. is osmotically indifferent and isotonic with the tissue fluids. Slight deviations from this concentration, however, are insufficient to cause any appreciable pain.

He also found that the temperature of the body was that most appropriate for the injections. Colder and warmer solutions had unmistakable painful effects.

The author believes that the alterations caused in the tissues by the injections are at least as important as their direct anæsthetic effect, and that for the perfect application of the infiltration anæsthesia method, solutions that cause any irritation at all are to be absolutely rejected. In practice we have to deal mostly with tissues that are hyperæsthetic, and all the irritative factors must not merely be covered up and compensated for, but they

must be entirely excluded.

Hence all materials that are in themselves irritant are unsuitable in any concentration for the injections. Such a substance as bromide of potassium, for instance, is a painful anæsthetic per se. On the other hand pure and specific anæsthetics may be irritant if attention is not paid to the physical properties of the solutions that contain them. It is a mistake to diminish the concentration of the solution too much with the idea of calling into play the anæsthetic properties of the swelling that it occasions.

The two most commonly used local anæsthetics, Beta-Eucain and cocain, alter the osmotic tension of the water in which they are dissolved, more especially in the exceedingly small proportion in which they are usually employed, but very slightly. They are very far from making a solution that is isotonic with the tissue fluids. This is best effected by the addition of an indifferent salt to the water of solution. Heinze employed a 0.6 per cent. sodium chloride solution; but any other indifferent salt can be used.

As the pure anæsthetic to be employed in the above solution, Heinze not only prefers Beta-Eucain, but concludes that it is the only drug to be used for the production of infiltration anæsthesia. It is fully equal to cocain in its paralyzing effect upon the nerves and its almost absolute non-irritativeness, and is preferable to it for various other and well-known reasons. He recommends for the infiltration anæsthesia the following formula:

Beta Eucain	0.1 gram (1½ grains).
Sodium chloride	0.8 gram (12 grains.)
Dis. water	100.0 grams (3¼ fluid ounces.)

Such a solution is permanent, and can be boiled and sterilized at any time and as often as is necessary. It

causes absolutely no swelling or irritation of the tissues; the Beta-Eucain alone is the anæsthetic factor. The addition of the salt is not for the purpose of effecting anæsthesia, as Schleich erroneously believed, but to prevent the irritative symptoms, and to permit the specific anæsthetic action of the drug employed to be manifested alone.

It has been employed for months now, more especially for the infiltration of inflamed tissues, and has been found to be absolutely superior to the solutions recommended by Schleich. It is important that it should be used, warmed to the body temperature. It is then absolutely non-irritating, and purely paralyzing.

In the course of a very elaborate paper entitled "Local and Regional Anæsthesia with Cocain and other Analgesic Drugs, including the Subarachnoid Method, as Applied in General Surgical Practice," Dr. Rudolph Matas, of New Orleans, Professor of Surgery, Medical Department, Tulane University of Louisiana, states that since the introduction of Beta-Eucain, which can be used in relatively concentrated solutions without fear of toxic effects, the neuro-regional method of anæsthesia has been so perfected that a maximum effect can be obtained with a safe minimum expenditure of the drug. There is a decided tendency noticeable at the present time to depend more upon the action of the analgesic drugs than upon the physical or mechanical effects of the infiltration process itself.

Latterly, since using the special injection apparatus which he describes, Dr. Matas has almost exclusively employed Beta-Eucain for the deep infiltrations (Le Grand and Joanin). The facts that it is itself mildly antiseptic, that it can be sterilized by

boiling, and that it is 3.75 times less toxic than cocain (5 times less toxic according to Vinci), make it especially valuable for large infiltrations. It is not, according to Dr. M.'s experience, as effective as cocain when used in the same proportions; but in relatively stronger solutions it is equally powerful. A 2 per cent. solution is nearly as effective as a 1 per cent. cocain solution; and since it is possible to use as much as 50 or 60 cgm. (7.7-10 to 91.4 grains) in one operation (Lohmann), and even more, without the supervention of toxic phenomena, its great value cannot be questioned. After numerous trials he obtained the most satisfactory results in major cases with a solution consisting of $\frac{1}{2}$ grain of Beta-Eucain, dissolved in 1 ounce of isotonic salt solution (8-10 per cent. sodium chloride, Heinze), representing very nearly 1-10 of 1 per cent. of Beta-Eucain solution. Eight ounces of this solution (equivalent to 4 grains of Beta Eucain), fills the bottle of the injecting apparatus, and is more than is usually required for the large majority of operations. If more is needed Matas does not hesitate to refill the bottle, until the limit of 10 grains of Beta-Eucain is reached (20 ounces of the solution), care being taken to secure free drainage of the solution in the course of the operation. In very sensitive parts the strength of the solution may be increased to 0.2 per cent., 8 ounces of which may be used for the first infiltration, after which a weaker solution should be employed so as not to exceed the limit of safety. Massive infiltrations of more than 20 ounces are rarely if ever required; but if they are, much latitude is allowable to a judicious operator, who will be guided by the loss which is likely to take place through drainage during

the course of the operation. Such large infiltrations may be required for the extirpation of carbuncles and large neoplasms, amputations, etc. All that is necessary is to bear in mind the amount that is likely to remain permanently in the tissues and be absorbed, and to see that this does not exceed 5 grains, though experience has demonstrated that 8 and 10 grains are well tolerated.

The author dilates upon the importance of rigorous asepsis as regards the injection, and more especially the sterilization of the fluid employed. He then proceeds to consider the various methods of mixed or combined anæsthesia.

Thus for the removal of large tumors of the neck, carbuncles, etc., in which the circulation of the region cannot be readily controlled, he employs the cocain solution for the infiltration of the most sensitive parts of the field of operation, such as the skin, and depends upon Beta-Eucain in 0.2 per cent. solution for the general edematization of the remaining and less sensitive areas. He also systematically uses the combinations of anæsthetics in operations upon the bladder, in which the topical application of strong local anæsthetic solutions is required to anæsthetize the sensitive and inflamed mucosa. This occurs most frequently in suprapubic cystotomy for stone, or for the relief of prostatic obstruction. In these cases he liberally employs a 4 per cent. Beta-Eucain solution after the preliminary cocain injection, allowing them to remain in the bladder. The procedure is the same in the performance of litholapaxy after Chismore's method, which he has done seven times with six complete successes in the last two years, employ-

ing 4 to 6 ounces of a 4 per cent. Beta-Eucain solution.

Dr. Matas has also employed Beta-Eucain for spinal subarachnoid anaesthetization, using 1 cc. (15 minims) of a 1 per cent. solution after the flow of cerebrospinal fluid has been clearly demonstrated. The needle, with the syringe attached, was left in situ pending observation of the anaesthetic phenomena, for further inspection. He found, however, that in the same doses as cocain, the anaesthetic effects did not appear. He calls attention, however, to the toxic effects of cocain which may show themselves immediately during the acme of the anaesthetization, but are more constantly seen during the pots-anaesthetic stage some twelve hours later. Racoviceanu-Pitesci, whose experience is almost as large as that of Tuffier, said at the important discussion which took place at the recent International Congress in Paris, that he knew of two deaths which had occurred in Roumania as the result of spinal cocainization; in eighty of his cases he had observed light intoxications persisting for four or five days, and in three he had had grave and alarming accidents. The experience of the Roumanian surgeons distinctly sustains Prof. Bier in the very conservative and guarded attitude that he has maintained since he first used the method for surgical purposes in 1898.

In his paper (*Munch. Med. Woch.*, 1900, XXXVI, p. 1226), Professor Bier holds that the problem is not to use cocain in the manner which he first described and for which he predicts no great future, but to devise means of rendering cocain harmless and to prevent its unpleasant and after-effects, or to discover some non-toxic substances. He says, with Tuffier, that he doses of cocain should not exceed

15 mgm. ($\frac{1}{4}$ grain).—*The Philadelphia Medical Journal*, Vol. VI, No. 18, November 3d, 1900.

At the Meeting of the American Surgical Association, held in Baltimore, Md., May 7th, 8th and 9th, 1901, Dr. R. Matas, of New Orleans, read a paper on "The Treatment of the Arteriovenous Aneurisms of the Subclavian Vessels," and reported a case of bullet injury occurring in a man aged twenty-four years, in whom the right subclavian artery and vein had been perforated through the scalenus anticus. The bullet had also injured the brachial plexus, causing paralysis of the corresponding upper extremity. The operation was performed ten days after the injury. An osteoplastic resection of the clavicle with disarticulation at the sternoclavicular joint was made under local infiltration anaesthesia with Beta-Eucain, and a temporary traction loop of silk was applied under the first portion of an anomalous subclavian artery, the innominate being absent. The vein was provisionally compressed above and below the anastomotic orifice. Notwithstanding complete control of the subclavian at its origin, profuse hæmorrhage took place from the anastomotic orifice when the vein was detached from the artery, the bleeding stopping when double ligatures were applied above and below the perforation in the artery. The bleeding indirectly came from the vertebral and internal mammary. After dividing the artery between the ligatures, the orifice in the vein was closed by lateral suture, and the venous circulation was re-established. A bullet, undeformed, 38 caliber, was extracted. Shock followed, but patient was restored by saline infusion. Recovery with partial loss of hand and forearm from mortification, caused by arterial

ischaemia and insufficient collateral circulation. Primary healing of operative wound. In reviewing literature of the subject the author referred to fifteen cases of this rare injury which had been recorded since 1829, when Larrey described the first case. Of these, only four had been operated upon. The indications for intervention, the prognosis and details of the operative technic closed the paper.

Dr. Matas also exhibited an apparatus which he used for local infiltration anaesthesia. It consisted of a metallic (sterilizable) cylinder provided with an accessory gauge which indicated the level of the fluid within. The cylinder (capacity 8 ounces) was filled with a weak Beta-Eucain solution (1-5, 1-10 and 1-100 of 1 per cent.) and was charged with a small air pump, which forced the fluid into the tissues by simple pneumatic pressure. After charging the cylinder, the pump is detached, and the cylinder is connected to the needle and tubing by which the fluid is injected into the tissues. The advantages of this apparatus are, that it facilitates the introduction of large quantities of anaesthetic fluid (Beta-Eucain dissolved in 8-10 of 1 per cent. salt solution) and completely edematizes the field of the operation by a process of almost continuous infiltration and without the interruptions caused by the frequent changes of the ordinary syringes. It is especially advantageous when massive infiltrations over large areas are indicated with extremely weak solutions, which anaesthetize the tissues by their physical action alone rather than by the chemical analgesic action of the drug.

He had used the appliance all of the past winter, and had been much pleased with the results obtained in

great variety of operations, many of which without its aid would have been entirely beyond the scope of purely local anaesthesia. It is also the most satisfactory apparatus that he has used for extensive hypodermoclysis in shock, haemorrhages and other conditions in which it is desirable to inject rapidly a large quantity of physiological salt solution under the skin.—*The Boston Medical and Surgical Journal*, June 20th, 1901.

MEDICINE.

CARBONATE OF CREOSOTE IN PNEUMONIA.

BY W. H. THOMSON, M. D., L. L. D., NEW YORK.

Physician to the Roosevelt Hospital.

In the *Medical Record* of November 2, 1902, Dr. Leonard Weber reports nine cases of pneumonia treated by creosotal, or the carbonate of creosote, with one death. As I had also formed a favorable opinion of the same remedy in the treatment of this disease in private practice and in consultation, I determined to put every case admitted with lobar pneumonia to my wards in the Roosevelt Hospital, as far as possible, exclusively upon this drug, so far as medication was concerned. Eighteen patients were so treated from May 1 to November 1, 1901, six of them during the months of July and August being under the care of my colleague, Dr. Frank W. Jackson, who consented to continue this treatment with them. Of these patients, fifteen were males and three females; two under the care of Dr. Jackson were boys, ten years old, while the ages of the others ranged from thirteen to forty-five. Two (males) were colored. Of these eighteen patients, one (male) died, and the rest

recovered, a record which, so far as it goes, is much more favorable than my usual experience in pneumonia, whether in hospital practice or outside. Both lungs were involved in three patients, all of whom recovered, while the remainder, six, had the right lung attacked, and nine the left.

As will be seen from the reports which have been condensed from the hospital books by my house physician, Dr. A. W. Bingham, the patients presented a fair average of the ordinary symptoms and conditions in lobar pneumonia, so that they could hardly be called selected cases. Whether they generally ran a milder course owing to seasonal conditions cannot be decided, but at least in three very alcoholic patients, one of whom had double pneumonia, conditions were severe enough to be worthy of special mention. The first of these, Case III, the man aged thirty-three, had long been a heavy drinker, and for six weeks previously had severe bronchitis. He was then attacked with chills, vomiting, great pain in the præcordia, rusty sputum, and marked prostration. On admission on the third day, though his temperature was only 102 degrees, his general condition looked very unfavorable, his lips were cyanosed, and his tongue heavily coated and dry. His temperature then rose steadily, and by the eighth day reached 106 degrees. His temperature did not reach normal till the twenty-first day.

The second, Case XV, that of a large, powerfully built man, aged forty-five, was admitted as a private patient to the Roosevelt Pavilion, with the following antecedents. He had long indulged freely in liquor, and his attending physician stated that for at least six months he had albumin in his urine, and was

often languid and stupid. For the past three months he was very restless nights. Six weeks ago, he had a spasm which lasted but a short time, and during which he did not lose consciousness. The excitement of the election campaign, in which he was greatly interested, led him to excessive drinking, till at 10 o'clock a. m., October 10, he was seized with a violent epileptic convulsion, in which he severely bit his tongue. He did not fully recover consciousness till 2 p. m., when shortly afterward he had another convulsion, and then he remained in coma with recurring convulsions till 10 p. m., when he was admitted to the hospital, and I was summoned to see him. After my arrival he had two more convulsions in quick succession. His pulse was 124, and of very high tension. He had passed no urine since 10 a. m., and only 6 ounces were obtained when he was catheterized. It was pale, sp. gr. 1010, albuminous, and with abundant fatty and granular casts. I ordered him to be bled 12 ounces, with dry cups over the kidneys, and had $\frac{1}{2}$ drachm sodium bromide and 20 grains of chloral given per rectum every three hours, with 10 drops of the tincture of veratrum viride. He had no more convulsions after the bleeding, and the next morning he was conscious, with pulse still of high tension and temperature 100 degrees F., whereupon the veratrum was pushed every half-hour till the pulse became softer. On the third day, he developed the full train of symptoms of delirium tremens, and required incessant restraint. This state continued for two days, when his temperature suddenly rose to 104.4 degrees, and he expectorated a quantity of bright-red blood. On my visit to him that day, I found that pneumonia had fully set in in his right lung, and I was not inclined to give a

favorable prognosis, considering the usual course of such cases. The creosotal was given continuously, 15 grains every two hours night and day for ten days, and then at longer intervals, with a gradual descent to normal in three weeks.

The third patient, Case XVI, aged thirty-three, had been a heavy drinker, and stated that he had pleurisy four weeks before admission, from which he had quite recovered, until four days ago, when he had a severe chill, followed by fever, headache, pain in the right chest, cough with scanty sputum, and hyspnoea. Admitted October 21, in a very apathetic state, with flushed cheeks, pulse 120, full and strong, arteries thickened, breathing shallow, and abdomen quite tympanitic. Temperature 104.4 degrees, respirations 40. Examination showed consolidation of the right lung posteriorly up to the axilla, with pneumonic rales over the lower lobe in front. He was ordered creosotal, 15 grains every two hours if awake. The course of his temperature then became very irregular. The next day, the fifth of his disease, it was 100.2 degrees in the morning, and 102 degrees in the evening, but on the next day it was 105.6 degrees in the morning, when pneumonic rales, followed by dullness and bronchial breathing, were found over the lower lobe of the left lung, both posteriorly and anteriorly. The right lung resolved completely by the thirteenth day, but the left not till the twenty-fourth day.

On the other hand, the patient who died (Case V), who was also an alcoholic subject, though he stated that he had been only moderately so, had the creosotal as freely administered as the others, and at first he did not seem to present a specially unfavorable case of the disease. The temperature, how-

ever, continued persistently high, and was quite unaffected by the medication, reaching before death 107 degrees.

The remedy, also, can hardly be credited with the favorable result in Case IV, as the man was admitted on the sixth day of his illness with a temperature of 104 degrees, which was followed in about twelve hours with a crisis drop to nearly normal.

That the drug may exert a special effect upon the course of pneumonia is rendered probable by the peculiar course of the temperature after its administration, a fact which I had noted before in other cases, and which is well illustrated in the present list. Thus the disease terminated here by lysis in twelve, and by crisis in only five. In a number of them a fall in the temperature of from one to three degrees occurred within twenty-four hours after beginning with it, but the next day it would rise again, and so continue with a very irregular course for a number of days before it reached normal.

Carbonate of creosote, or creosotal, seems also to affect favorably that very undesirable complication in pneumonia, tympanites, which was pronounced in five of these patients. As I use this drug freely in the treatment of phthisis, I have been struck with its greater toleration by the stomach for prolonged periods than any other agent of this class, such as creosote itself or the guaiacol carbonate. In pneumonia, I prefer to give it in 15-grain doses every two hours, night and day, or 180 grains in the twenty-four hours, which is about three times the amount prescribed by Dr. Weber.

I have never noted any depressing effect by it on the circulation when so administered, nor need there be any fear entertained of its acting injuriously upon the kidneys, even if they

were previously diseased, as in Case XV. In one patient, a lady with general anasarca, hæmaturia, and abundant tubercle bacilli in the urine, whom I saw in consultation three years ago, creosotal was taken continuously by my advice for nine months, after which the bacilli wholly disappeared from the urine, and she is now in good health. My usual formula for administering it is:

R Creosot carbonat.
Glycerini
Aq. menthæ. ad Oss.
M. Dose: Tablespoonful in water.

Medical Record.

UROTROPIN.

Professor W. F. Loebisch, Director of the Laboratory for Applied Medical Chemistry at the Imperial and Royal University of Innsbruck, in a discourse held before the Medical Society of that city, published in the *Wiener Medicinische Presse*, Nos. 27 and 28, 1901, details at length the results of his experimental researches upon the influence of Urotropin upon intestinal decomposition. In spite of the demonstration of the inhibitory influence of the drug upon the development of the bacterium coli by Nicolaier, and of its destructive effect upon typhoid bacilli in the urine by Richardson, a direct influence of the Urotropin ingested upon intestinal fermentation itself was not thought of. Loebisch himself had his attention called to it quite accidentally. He was examining the urine of a man who was well nourished and upon a mixed diet, and who was taking Urotropin to the extent of 0.5 to 1 gram ($7\frac{1}{2}$ to 15 grains) daily for a posterior urethritis, and found that neither by Jaffe's or Obermayer's test could he get any

reaction for indican. Now the presence of this substance in the urine is one of the most accessible and reliable indications of the occurrence of bacterial intestinal decomposition, and he was thus led to investigate the action of the drug upon these ordinary enteric changes.

Mr. Ernst Mayerhofer, Assistant at his Institute, made a series of personal experiments for the determination of the matter, during a period of twenty days. The diet was of the usual mixed variety. Only upon the last three days of the experimentation was it made uniform in quantity and quality.

As the tables presented by Loebisch clearly show, the indican in the urine examined decreased *pari passu* with the amount of Urotropin that was daily administered, until finally it disappeared altogether. The conclusion was inevitable that Urotropin, administered in daily doses of 2 grams (30 grains) to a healthy individual upon a mixed diet, inhibits ordinary bacterial intestinal putrefaction.

In view of the fact that the increased excretion of indican in the urine is an important symptom in various diseases, Loebisch next inquires whether this property of Urotropin to diminish or even abolish it in moderate daily doses of 2 grams (30 grains) cannot be utilized therapeutically.

Now both indol and skatol appear in the large intestine in consequence of a peculiar process of decomposition in which various aerobic and anaerobic bacteria are also concerned. Indol is not necessarily formed in ordinary albuminoid decomposition; apparently the aerobic indol-formers hinder this process. Under normal circumstances

both the indols and the phenols are formed in the large intestine. Jaffe has shown that indican is increased in the urine in all cases in which the small intestine is occluded, as in incarceration from hernia or peritoneal adhesions; and H. Senator has found it augmented in chronic wasting processes, such as cancer of the stomach, etc., and even in simple coprostasis. Clinicians therefore look upon the increase of indican in the urine as an indication of a disturbance of the normal decomposition processes of the alimentary canal.

Disinfection of the intestinal canal is desirable in many cases in which agents like calomel, which cause diarrhoea, are not appropriate. The contents may as far as possible be disinfected in situ; for which purpose the phenols, cresols, tribromphenol, theymol, and many other substances have been recommended. They have not obtained a very wide acceptance, however, perhaps for the reason that most of them are poisons, and the non-toxic medicinal dose may be readily overpassed.

Urotropin is a remedy that is very soluble in water, that by the above experiments has been proven to be inhibitory to intestinal decomposition that has been found valuable in the treatment of various bladder diseases, and that has been proven to be harmless even when taken for weeks at a time in medicinal doses. Mayerhofer did not suffer from the least physical disturbance during the twenty days that he took the drug; I even had the impression that his complexion cleared, and that his physical energy was increased.

Loebisch then made a series of experiments as to the power of Urotro-

pin to prevent the decomposition of non-sterile fibrin. They found that it had a hindering effect even when employed in very dilute (1:10,000 solution).

There is abundant evidence before us as to its power of inhibiting the development of the specific intestinal bacteria. Bacteriuria due to the bacterium coli (Nicolaier, Heubner) and the bacillus lacties arogenes (Kruse) have been cured by its use. Loebisch has himself observed a case of recurrent bacteriuria which was always quickly relieved by a few doses of Urotropin. American, German, and English observers have testified to its beneficial influence upon typhoid bacilli in the urine. In view of these facts and of the foregoing experiments, there can be no doubt that Urotropin influences the bacteria of the intestinal canal in a similar manner. It is now the turn of the clinicians to experiment therapeutically with the drug in the many cases of abnormal intestinal decomposition.

MISCELLANEOUS.

THE NATHAN LEWIS HATFIELD PRIZE FOR ORIGINAL RESEARCH IN MEDICINE.

The College of Physicians of Philadelphia announces through its Committee that the sum of Five Hundred Dollars will be awarded to the author of the best essay in competition for the above prize.

Subject: "The Relation between Chronic Suppurative Processes and Forms of Anæmia."

Essays must be submitted on or before March 1st, 1903.

Each essay must be typewritten, des-

ignated by a motto or device, and accompanied by a sealed envelope bearing the same motto or device and containing the name and address of the author. No envelope will be opened except that which accompanies the successful essay.

The Committee will return the unsuccessful essays if reclaimed by their respective writers or their agents within one year.

The Committee reserve the right not to make an award if no essay submitted is considered worthy of a prize.

The treatment of the subject must, in accordance with the conditions of the Trust, embody original observations or researches or original deductions.

The competition shall be open to members of the medical profession and men of science in the United States.

The original of the successful essay shall become the property of the College of Physicians.

The Trustees shall have full control of the publication of the memorial essay. It shall be published in the Transactions of the College, and also when expedient as a separate issue.

Address, J. C. Wilson, M. D., Chairman, College of Physicians, 219 South Thirteenth Street, Philadelphia, Pa.

CHANGES IN THE MEDICAL CORPS OF THE NAVY.

Week ending January 18th.

January 10. Assistant Surgeon J. H. Payne, detached from the Isla de Cuba, and ordered home.

January 13. Surgeon I. W. Kite, ordered to the Norfolk Navy Yard.

Surgeon H. T. Percy, detached from the Norfolk Navy Yard, and ordered to the Navy Yard, League Island for duty with the Naval Recruiting Rendezvous, Philadelphia.

January 15. Surgeon W. F. Arnold, detached from the New Orleans, and ordered to Guam.

Assistant Surgeon J. T. Kenredy, detached from the Brooklyn, and ordered to the Helena.

Assistant Surgeon J. W. Backus, detached from the Brooklyn, and ordered to the Princeton.

Assistant Surgeon R. C. Holvomb, detached from the Helena, and ordered to the Manila.

Assistant Surgeon R. W. Plummer detached from the Princeton and ordered to the New Orleans.

P. A. Surgeon B. R. Ward, detached from the Boston Yards and ordered to the Constellation.

P. A. Surgeon W. C. Braisted, detached from recruiting duty and ordered to the Naval Hospital, New York.

January 16. P. A. Surgeon J. C. Pryor, detached from the Naval Hospital, New York and ordered to the Naval Hospital, Newport, R. I.

For week ending January 25.

January 17. Surgeon D. O. Lewis, ordered to the Pensacola.

January 18. P. A. Surgeon J. E. Page, detached from the Pensacola, and ordered to be ready for sea duty.

January 20. Rear Admiral W. K. Van Reypen, Surgeon General of the Navy, retired from active service, Jan. 25th, upon his own application after 40 years of service, with the rank and three fourths of the sea pay of the next higher grade.

Medical Inspector W. A. McClurg, ordered to the Olympia January 25th.

January 22. P. A. Surgeon, E. O. Huntington, commissioned P. A. Surgeon from May 24, 1901.

P. A. Surgeon, J. B. Dennis, com-

missioned P. A. Surgeon from May 25 1901.

January 23. Assistant Surgeon E. G. Parker, ordered to the Pensacola.

Assistant Surgeon U. R. Webb, detached from the Pensacola, and ordered to the Asiatic Station, sailing from San Francisco, February 7th.

Week ending February 1, 1902.

January 24. Rear Admiral W. K. Van Reypen, detached from duty as Chief of the Bureau of Medicine and Surgery, Navy Department, and ordered home to await orders.

January 29. Assistant Surgeon C. M. Oman, commissioned Assistant Surgeon from December 18, 1901.

January 30. Assistant Surgeon G. M. Mayers, detached from the Naval Hospital, Cavite, P. I., and ordered to the Isla de Cuba.

Week ending February 8, 1902.

February 3. Assistant Surgeon F. M. Furlong, ordered to Naval Hospital Norfolk, Va., instead of to the Topeka, as previously ordered.

February 6. Assistant Surgeon W. H. Ulsh, detached from the Annapolis and ordered to the Naval Hospital Mare Island for treatment.

Medical Inspector J. R. Waggener, detached from the Constellation and to duty at the Marine Recruiting Rendezvous, Boston, Mass.

Surgeon J. F. Urie, detached from the Marine Recruiting Rendezvous, Boston, Mass., and ordered to the Naval Dispensary, Washington, D. C.

Surgeon L. W. Spratling, ordered to duty at the Naval Hospital, Portsmouth, N. H.

P. A. Surgeon S. G. Evans, detached from duty at the Naval Hospital, Portsmouth, N. H., and ordered to the Pensacola Navy Yard.

Surgeon F. J. B. Cordeiro, detached from the Pensacola Navy Yard and ordered to the Constellation.

Assistant Surgeon C. M. Oman, ordered to the Naval Hospital, New York, for duty.

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